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Inventor: Mark S. Schaefer

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METHOD AND SYSTEM FOR VEHICLE SOFTWARE
CONFIGURATION UPDATE MANAGEMENT

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Examiner: Ted T. Vo

Attorney Docket No. GP-304231-OST-ALS

REPLY BRIEF

Board of Patent Appeals and Interference
U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, Virginia 22313-1450

This Reply Brief is being filed to respond to certain comments and assertions contained in Section (10) of the Examiner's Answer mailed April 14, 2009. Appellant respectfully submits that the analysis and conclusions as to the different rejections are incorrect and therefore requests Board action to overturn the rejections.

As best understood, the Examiner's position is that Kincaid teaches all of the steps of the independent claims except for the carrying out of these steps in a vehicle via a telematics unit. See Page 11 of the Examiner's Answer:

"It appears that the claim intends the updating method to the software in a memory of a computing device in *a vehicle* via a *telematics unit*, while the Kincaid updating the software in a memory of a computing device such as a mobile phone or a PDA from an update server via transceiver and downloaded to the memory by means of processing circuitry (FIGURE 2)." (Emphasis in original.)

The Examiner then looks to Kellerer which teaches a vehicle having a telematics unit and a gateway connecting a wireless device with the vehicle. However, as discussed in the Appeal Brief, the Examiner has not shown that many of the limitations of the independent claims are disclosed by Kincaid, nor has he provided a proper basis for combining the teachings of the references in a manner that renders obvious the subject matter of Appellant's claims.

1. *The Examiner Muddles the Concepts Of "Electronic Module" and "Software Module" As Recited in Appellant's Claims.*

As noted above, the Examiner appears to believe that Appellant is simply carrying out Kincaid's method on a vehicle. However, this interpretation is overly simplistic. The Examiner appears to give the term "module" a vague, unreasonably overbroad meaning that is not supported by the subject application or applied references. For instance, the Examiner states in the Answer at Page 12 that "the claimed functionality is merely to change in shape—*electronic modules* versus components of mobile device and *current software configuration* versus basic operating system."¹ As best understood, this interpretation conflicts not only with Appellant's claim language and teachings, but also ignores the understanding of one of ordinary skill in the art. The "electronic modules" as recited by Appellant are separate and distinct electronic devices each having their own software (i.e., separate pieces of programmed hardware), not merely components of a single computing device. As a result, the Examiner confuses Kincaid's method of intra-device software updating with Appellant's method involving the software modules installed on distinct electronic modules connected to a vehicle telematics unit over a vehicle communications bus.

Appellant's claim 28 identifies two distinct types of modules, software modules and electronic modules. More specifically, Appellant's claim 28 recites the step of "obtaining vehicle configuration data representative of a current software configuration on the vehicle," wherein "the vehicle configuration data includes the versions of software modules currently installed in electronic modules connected to the vehicle telematics

¹ There is additional discussion of modules in the Examiner's Answer at the bottom of Page 13 bridging onto Page 14; however, its meaning and relevance is even less clear than that cited above.

unit over a vehicle communications bus and the vehicle configuration data identifies interdependencies between the software modules.” Or in other words, as would be appreciated by one skilled in the art, a portion of the vehicle configuration data represents or identifies software modules (i.e. software) installed on each of a plurality of electronic modules (i.e. hardware) installed on a vehicle that communicate with a vehicle telematics unit over a vehicle bus. None of the relied upon references either disclose or teach using a telematics device to obtain the software configuration for each of a plurality of electronic devices, or hardware devices, much less determining if the updated version of a first software module is compatible with the current software configuration on the electronic modules. This arrangement of hardware components can be understood in more detail from Appellant’s Fig. 1. In Fig. 1, electronic modules as taught by Appellant, such as vehicle control module 114 and sensor 116, are shown connected to the vehicle telematics unit 120 via the vehicle bus 112. Module 114 and sensor 116 are shown as separate and distinct hardware devices linked to the telematics unit 120 wherein both the module 114 and the sensor 116 each have a dedicated software module. Therefore, when Appellant determines whether the updated version of the first software module is compatible with the current software configuration, this step involves checking whether it is compatible with software modules on each electronic module, such as module 114 and sensor 116, which are separate devices. Kincaid, on the other hand, teaches an intra-device software update. For instance, DLM space 263 stores download modules (DLMs) in memory 260 and DLM manager 270 “identifies component interdependencies.”² Both Kincaid’s memory 260 and DLM manager 270 are located on the mobile station 111. As a result, all of the software updating occurs within mobile station 111.

While Examiner broadly interprets Kincaid’s software updating method as encompassing Appellant’s claim 28, Kincaid actually only involves updating the software of a single device. In the Answer, the Examiner states that “[e]ach step of their claimed method is structured the same as of Kincaid as mapped and shown in the teaching of Kincaid” and then cites as support “the performed steps of claim 28 and the steps shown in Kincaid’s Figure 4.”³ However, nothing in Kincaid’s Fig. 4 discloses or otherwise

² Kincaid, U. S. Patent Publication No. 2004/0117785, paragraphs 46-47.

³ Examiner’s Answer, Page 13, lines 4-6.

teaches the software interdependencies of a plurality of separate hardware devices connected via a vehicle communication bus. On the contrary, Figure 4 is surrounded by a segmented line that is labeled with reference number 111 supporting the interpretation that Kincaid's software updates take place within a single computing device—mobile station 111. Thus, Kincaid teaches determining the compatibility of software modules within one electronic device rather than the compatibility of software modules installed on a plurality of electronic devices (e.g. vehicle control module 114 and sensor 116).

Furthermore, nothing the Examiner has identified in Kellerer makes up for the deficiencies of Kincaid. For instance, even if one interpreted the wireless device taught by Kellerer as the “electronic device” recited in Appellant's claims, and a wire connecting it to a vehicle as a vehicle communications bus, Appellant cannot find, nor has the Examiner identified, any disclosure or teaching in Kellerer that would suggest the step of obtaining a current software configuration installed on a plurality of electronic modules. In other words, Kellerer does not disclose or teach multiple wireless devices/PDAs (e.g. electronic modules) linked to a vehicle bus, much less determining the interdependencies of the software modules of each.

2. *The Examiner Still Has Not Provided A Proper Reason Why One Would Link Kincaid's Wireless Device To A Vehicle Telematics Unit To Receive Software Updates Rather Than Use The Wireless Device Transceiver.*

As Appellant argued previously, using Kincaid's method of updating a wireless device, the Examiner has not identified any proper reason to link Kincaid's wireless device, capable of independent communications, to a vehicle as taught by Kellerer in order to receive software updates to the device through a vehicle communications unit. The reason given by the Examiner for combining these teachings is that:

“... when viewing the claim against Kincaid, it is so obvious to direct the deficiency of the Kincaid (considered as software updated on a mobile computing device) by combining the teaching with the updating software by the means of a gateway in a computing device in a vehicle of Kellerer
...”⁴

⁴ Examiner's Answer, Page 12

There are several things wrong with this rationale. First, it makes no sense to assert that Kincaid's deficiency is "software updated on a mobile computing device" because that is specifically what Kincaid teaches doing. To the contrary, given the communication capabilities taught by Kincaid, one of ordinary skill would find no advantage or other reason to link the mobile station 111 with a vehicle communications system to receive software updates onto the mobile station. That is, even if a user of Kincaid's mobile station 111 was in or near a vehicle, the user would most sensibly update the station 111 using the RF transceiver included with the station 111 rather than link the station 111 to the vehicle (either wirelessly or via wire) and use the station 111 to control a vehicle telematics unit and receive software updates through the telematics unit. The burden of establishing a *prima facie* case of obviousness rests upon the Examiner—a burden he has continually failed to establish. There has been no proper reason provided in the record or that is otherwise apparent from the prior art of record as to why one of ordinary skill in the art would abandon Kincaid's teaching of using the station's communication capability to update its software to instead undertake a more complicated approach of first linking the station with the vehicle and then using the vehicle to access and download software updates that then must be transferred from the telematics unit to the station.

The Examiner also fails to provide any reasoning how one of ordinary skill would incorporate the automated communication functions of Kincaid into the temporary wireless link taught by Kellerer. While bodily incorporation of Kincaid into Kellerer is not necessary to establish obviousness, the two teaches are partially incompatible such that, apart from the Examiner not having given any proper reason to combine, there is instead reasons why these teaches specifically would not be combined. For example, Kincaid teaches an automated periodic procedure or receipt of a notification message from a remote upgrade server.⁵ The automated update procedure cannot reliably take place if communication of the updates depend on the user connecting mobile station 111 taught by Kincaid to the vehicle communication capability taught by Kellerer. For example, the user cannot reasonably predict the time at which the automated procedure

⁵ Kincaid, paragraph 44.

will signal that the station 111 should receive a software update. For this reason as well, one of ordinary skill in the art would not look to incorporate Kellerer's approach into the update procedure taught by Kincaid. Nor has the Examiner provided any analysis concerning how one of ordinary skill would overcome this incompatibility.

Moreover, while not discussed by the Examiner, even if one modified the combination of Kincaid and Kellerer to use the telematics device taught by Kellerer to manage rather than receive the software update while using Kincaid's wireless device to receive the software update, this arrangement does not make up for the deficiencies of the intra-device software updating taught by Kincaid.

Accordingly, for the reasons discussed above and in the Appeal Brief, Appellant requests Board action to overturn the Examiner's rejection of the claims.

The Commissioner is authorized to charge any fees, or refund any overpayments, associated with this Appeal Brief to Deposit Account No. 07-0960.

Respectfully submitted,

REISING ETHINGTON P.C.

/James D. Stevens/

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JDS/ECC

James D. Stevens
Registration No. 35,691
P.O. Box 4390
Troy, Michigan 48099
(248) 689-3500